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placing the first compact disc in the printer;

moving the transporter carriage to the recorder; and

placing the second compact disc in the recorder.

Remarks

Claim Objections

Claims 9 and 10 were objected to due to informalities, specifically, typographical errors including the term draw instead of drawer and location instead of station. These amendments have been made herewith. In addition, two erroneous a's have been removed from claim 9. Claims 21 and 22 are amended to remove a redundant 'and'. None of the amendments change the scope of the claims and are not made in response the rejections contained in the office action.

Rejections Under 35 U.S.C. §103

Claims 1-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kahle (U.S. Patent 5,518,325) in view of Munro (U.S. Patent 5,500,803). The Examiner asserted Kahle teaches a compact disc processing system very similar to that of the instant invention. Specifically, the Examiner asserted that Kahle teaches the following means and steps: a printer for printing indicia on a first compact disc; a recorder for recording information on the first compact disc; a storage location for holding a plurality of compact discs; and a plurality of disc trays.

The Examiner asserted further that Kahle does not teach the following:

(a) a transporter carriage for holding the first compact disc and moving the first compact disc between the recorder and printer, the transporter carriage comprises a horizontally rotatable gripping head having first and second locations each for respectively holding the first and a second compact disc simultaneously;

(b) a selection mechanism coupled to the plurality of disc trays for selectively moving the plurality of disc trays such that the first compact disc can be placed on the selected disc tray for temporary storage;

(c) first and second gripping locations are located on opposite sides of the gripping head and can selectively hold the first and second compact discs;

(d) the disc is rotated to a predetermined rotational position before printing and is placed in a tray for removal by a user;

(e) vertical extending rod, rotating motor; and

(f) a vacuum pump coupled to the gripping head to selectively provide a vacuum to the first and second gripping locations.

The Examiner asserted that Munro teaches an automated cartridge system with a transporter carriage having features (a) through (d) above, as claimed by the Applicant, except Munro's gripping mechanism is for a tape cartridge.

The Examiner then asserted that a typical disc labeling system requires a disc selecting/loading cycle before the disc can be printed. The Examiner went on to assert that when there is a motivation of reducing waiting time for printing recording medium loading requests, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Munro's automated recording medium gripping system in Kahle's disc printing system, because it will select one medium and load the other medium at the same time.

The Examiner asserted that although both Kahle and Munro do not teach mechanical parts such as an extending rod, a motor, and a vacuum gripper, such parts are not novel because they are just typical components of a gripping system used in an object moving system. The Examiner asserted further that since both Kahle and Munro disclose a storage medium transportation system that involves gripping an object such as an optical disc, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an extending rotating rod to transport the disc, to use a rotating motor to drive the gripping mechanism, and to use the vacuum generated by the vacuum pump to grip the disc.

Applicant respectfully traverses the Examiner's rejection of claims 1-31 under 35 U.S.C. §103(a) as being unpatentable over Kahle (U.S. Patent 5,518,325) in view of Munro (U.S. Patent 5,500,803).

Claim 1 is directed to a compact disc processing system. The system comprises a printer for printing indicia on a first compact disc, a recorder for recording information on the first compact disc, and a transporter carriage for holding the first compact disc and moving the first compact disc between the recorder and printer. The transporter carriage comprises a horizontally rotatable gripping head having first and second gripping locations each for respectively holding the first and a second compact disc simultaneously.

Applicants respectfully assert that the references, alone or in combination, fail to teach the compact disc processing system of claim 1. Specifically, Applicants find no indications that Kahle or Munro is adapted to hold the first and a second compact disc simultaneously. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage having first and second gripping locations each for respectively holding the first and a second compact disc simultaneously, as included in claim 1. Therefore, claim 1 is not fully met by Kahle in view of Munro and is thus allowable.

Claims 2-8 depend directly from claim 1 and thus include patentable limitations of claim 1. Therefore, claims 3-5 meet the requirements of 35 U.S.C. §103(a) and should be allowed.

Claim 9 is directed to a compact disc processing system comprising a supply station for holding a plurality of blank compact discs and a printer for printing indicia on a first compact disc. The printer includes an extendable drawer adapted to receive the first compact disc. In addition, the compact disc processing system comprises a recorder for recording information on the first compact disc and a transporter carriage for simultaneously holding the first and a second compact discs on first and second planes. The recorder includes an extendable drawer to receive the first compact disc. The transporter carriage is moveable in both vertical and horizontal directions to place and pick up the first compact disc from the

drawers of both the recorder and printer and is moveable in both vertical and horizontal directions to pick up one of the plurality of blank compact discs held at the supply location. Moreover, the transporter carriage comprises a pickup arm and a gripping head attached to one end of the pickup arm. The gripping head has first and second gripping locations each for respectively holding the first and second compact discs simultaneously, and the gripping head is rotatable about a horizontal axis of the pickup arm.

Applicants respectfully assert that the references, alone or in combination, fail to teach the compact disc processing system of claim 9. Specifically, Applicants find no indications that Kahle or Munro is adapted to hold the first and a second compact disc simultaneously on first and second planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage having first and second gripping locations each for respectively holding the first and second compact discs simultaneously, as included in claim 9. Therefore, claim 9 is not fully met by Kahle in view of Munro and is thus allowable.

Claims 10-13 depend directly from claim 9 and thus include patentable limitations of claim 9. Therefore, claims 10-13 meet the requirements of 35 U.S.C. §103(a) and should be allowed.

Claim 14 is directed to a method of operating a disc processing system comprising a printer for printing indicia on a compact disc, a recorder for recording information on the compact disc, and a transporter carriage for simultaneously holding at least two compact discs. The method comprises gripping a first compact disc with the transporter carriage, moving the transporter carriage to the recorder and placing the first compact disc in the recorder, and moving the transporter carriage to a supply location and gripping a second compact disc with the transporter carriage while the first compact disc is in the recorder. The method comprises removing the first compact disc from the recorder with the transporter carriage such that the transporter carriage simultaneously grips both the first and second compact discs on first and second planes, respectively. Moreover, the method comprises placing the second compact disc in the recorder after the first compact disc has been removed and moving the transporter carriage to the printer and placing the first compact disc in the printer.

Applicants respectfully assert that the references, alone or in combination, fail to teach the method of claim 14. Specifically, Applicants find no indications that Kahle or Munro is adapted to simultaneously grip both the first and second compact discs on first and second planes, respectively. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage that simultaneously grips both the first and second compact discs on first and second planes, respectively, as included in claim 14. Therefore, claim 14 is not fully met by Kahle in view of Munro and is thus allowable.

Claims 15-17 depend directly from claim 14 and thus include patentable limitations of claim 14. Therefore, claims 15-17 meet the requirements of 35 U.S.C. §103(a) and should be allowed.

Claim 18 is directed to a method of operating a disc processing system comprising a printer for printing indicia on a compact disc, a recorder for recording information on the compact disc, and a transporter carriage for simultaneously holding two compact discs. The method comprises gripping a first compact disc with the transporter carriage, moving the transporter carriage to the recorder and placing the first compact disc in the recorder, and moving the transporter carriage to a supply location and gripping a second compact disc with the transporter carriage while the first compact disc is in the recorder. The method further comprises removing the first compact disc from the recorder with the transporter carriage such that the transporter carriage simultaneously grips both the first and second compact discs on first and second planes, respectively, and placing the second compact disc in the recorder after the first compact disc has been removed. In addition, the method comprises moving the transporter carriage to the printer and placing the first compact disc in the printer.

Applicants respectfully assert that the references, alone or in combination, fail to teach the method of claim 18. Specifically, Applicants find no indications that Kahle or Munro is adapted to simultaneously grip both the first and second compact discs on first and second planes, respectively. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage that simultaneously grips both the first and second compact discs on first and second planes, respectively, as included in

claim 18. Therefore, claim 18 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 19 is directed to a method of operating a disc processing system comprising a printer for printing indicia on a compact disc, a recorder for recording data on the compact disc, and a transporter carriage for simultaneously holding at least two compact discs on first and second planes. The method comprises either recording data on a first compact disc using a recorder or printing indicia on the first compact disc with the printer. The method also comprises gripping a second compact disc using the transporter carriage while the first compact disc is located in either the recorder or the printer.

Applicants respectfully assert that the references, alone or in combination, fail to teach the method of claim 19. Specifically, Applicants find no indications that Kahle or Munro is adapted to simultaneously hold at least two compact discs on first and second planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage for simultaneously holding at least two compact discs on first and second planes, as included in claim 19. Therefore, claim 19 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 20 depends directly from claim 19 and thus includes patentable limitations of claim 19. Therefore, claim 19 meets the requirements of 35 U.S.C. §103(a) and should be allowed.

Claim 21 is directed to a method of operating a disc processing system comprising a printer for printing indicia on a compact disc, a recorder for recording information on the compact disc, and a transporter carriage for simultaneously holding at least two compact discs on first and second planes. The method comprises gripping a first compact disc located in the printer with the transporter carriage and removing the first compact disc from the printer. The method also comprises moving the transporter carriage to the recorder, gripping a second compact disc located in the recorder with the transporter carriage, and removing the second compact disc from the recorder. Moreover, the method comprises placing the first compact

disc in the recorder, moving the transporter carriage to the printer, and placing the second compact disc in the printer.

Applicants respectfully assert that the references, alone or in combination, fail to teach the method of claim 21. Specifically, Applicants find no indications that Kahle or Munro is adapted to simultaneously hold at least two compact discs on first and second planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage for simultaneously holding at least two compact discs on first and second planes, as included in claim 21. Therefore, claim 21 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 22 is directed to a method of operating a disc processing system comprising a printer for printing indicia on a compact disc, a recorder for recording information on the compact disc, and a transporter carriage for simultaneously holding at least two compact discs on first and second planes. The method comprises gripping a first compact disc located in the recorder with the transporter carriage and removing the first compact disc from the recorder. The method also comprises moving the transporter carriage to the printer, gripping a second compact disc located in the printer with the transporter carriage, and removing the second compact disc from the printer. Moreover, the method comprises placing the first compact disc in the printer, moving the transporter carriage to the recorder, and placing the second compact disc in the recorder.

Applicants respectfully assert that the references, alone or in combination, fail to teach the method of claim 22. Specifically, Applicants find no indications that Kahle or Munro is adapted to simultaneously hold at least two compact discs on first and second planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage for simultaneously holding at least two compact discs on first and second planes, as included in claim 22. Therefore, claim 22 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 23 is directed to a method of operating a disc processing system comprising a recorder for recording data on the compact disc, and a transporter carriage for simultaneously

holding at least two compact discs on first and second planes. The method comprises gripping a first compact disc located in the recorder with the transporter carriage and removing the first compact disc from the recorder. In addition, the method comprises placing a second compact disc in the recorder without releasing the first compact disc or moving the transporter carriage from the recorder to a compact disc supply location.

Applicants respectfully assert that the references, alone or in combination, fail to teach the method of claim 23. Specifically, Applicants find no indications that Kahle or Munro is adapted to simultaneously hold at least two compact discs on first and second planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage for simultaneously holding at least two compact discs on first and second planes, as included in claim 23. Therefore, claim 23 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 24 is directed to a method of operating a disc processing system comprising a recorder for recording data on the compact disc, and a transporter carriage for simultaneously holding at least two compact discs on first and second planes. The method comprises gripping a first compact disc located in the printer with the transporter carriage and removing the first compact disc from the printer. In addition, the method comprises placing a second compact disc in the printer without releasing the first compact disc or moving the transporter carriage from the printer to a compact disc supply location.

Applicants respectfully assert that the references, alone or in combination, fail to teach the method of claim 24. Specifically, Applicants find no indications that Kahle or Munro is adapted to simultaneously hold at least two compact discs on first and second planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage for simultaneously holding at least two compact discs on first and second planes, as included in claim 24. Therefore, claim 24 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 25 is directed to a method of operating a disc processing system comprising a processing station to perform a processing operation on a compact disc, and a transporter

carriage for simultaneously holding at least two compact discs on first and second planes. The method comprises gripping a first compact disc located in the processing station with the transporter carriage and removing the first compact disc from the processing station. The method also comprises placing a second compact disc in the processing station without releasing the first compact disc or moving the transporter carriage from the processing station to a compact disc supply location.

Applicants respectfully assert that the references, alone or in combination, fail to teach the method of claim 25. Specifically, Applicants find no indications that Kahle or Munro is adapted to simultaneously hold at least two compact discs on first and second planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a transporter carriage for simultaneously holding at least two compact discs on first and second planes, as included in claim 25. Therefore, claim 25 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 26 depends directly from claim 25 and thus includes patentable limitations of claim 25. Therefore, claim 26 meets the requirements of 35 U.S.C. §103(a) and should be allowed.

Claim 27 is directed to a compact disc processing system. The compact disc processing system comprises a printer for printing indicia on a first compact disc and a recorder for recording information on the first compact disc. In addition, the compact disc processing system comprises a transporter carriage comprising a gripping head that is rotatable about a horizontal axis. The gripping head includes first and second gripping locations to respectively hold the first and a second compact disc on first and second parallel planes.

Applicants respectfully assert that the references, alone or in combination, fail to teach the compact disc processing system of claim 27. Specifically, Applicants find no indications that Kahle or Munro is adapted to have a gripping head that has first and second gripping locations to respectively hold the first and a second compact disc on first and second parallel planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a gripping head that has first and second gripping locations to

respectively hold the first and a second compact disc on first and second parallel planes, as included in claim 27. Therefore, claim 27 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 28 is directed to a compact disc processing system. The compact disc processing system comprises a printer for printing indicia on a first compact disc and a recorder for recording information on the first compact disc. Moreover, the compact disc processing system comprises a transporter carriage moveable in both a horizontal and a vertical direction. The transporter carriage comprises a gripping head that is rotatable about a horizontal axis. The gripping head includes first and second gripping locations to respectively hold the first and a second compact disc on first and second parallel planes. A vacuum pump is coupled to the gripping head to selectively provide a vacuum to the first and second gripping locations.

Applicants respectfully assert that the references, alone or in combination, fail to teach the compact disc processing system of claim 28. Specifically, Applicants find no indications that Kahle or Munro is adapted to have a gripping head that has first and second gripping locations to respectively hold the first and a second compact disc on first and second parallel planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a gripping head that has first and second gripping locations to respectively hold the first and a second compact disc on first and second parallel planes, as included in claim 28. Therefore, claim 28 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 29 depends directly from claim 28 and thus includes patentable limitations of claim 28. Therefore, claim 29 meets the requirements of 35 U.S.C. §103(a) and should be allowed.

Claim 30 is directed to a compact disc processing system. The compact disc processing system comprises a printer for printing indicia on a first compact disc, a recorder for recording information on the first compact disc, and a transporter carriage moveable in both a horizontal and a vertical direction. A gripping head is coupled to the transporter

carriage and is rotatable about a horizontal axis. The gripping head includes first and second gripping locations to respectively hold the first and a second compact disc on first and second parallel planes. The first gripping location comprises a centering feature to axially align the first compact disc with the first gripping location.

Applicants respectfully assert that the references, alone or in combination, fail to teach the compact disc processing system of claim 30. Specifically, Applicants find no indications that Kahle or Munro is adapted to have a gripping head that has first and second gripping locations to respectively hold the first and a second compact disc on first and second parallel planes. Applicants carefully reviewed Munro and found that Munro does not teach or suggest modifying Kahle to include a gripping head that has first and second gripping locations to respectively hold the first and a second compact disc on first and second parallel planes, as included in claim 30. Therefore, claim 30 is not fully met by Kahle in view of Munro and is thus allowable.

Claim 31 depends directly from claim 30 and thus includes patentable limitations of claim 30. Therefore, claim 30 meets the requirements of 35 U.S.C. §103(a) and should be allowed.

CONCLUSION

Applicant believes that the claims are in condition for allowance and respectfully requests a Notice of Allowance be issued in this case. If the Examiner has any questions regarding this application, please contact the undersigned attorney at (612) 312-2200.

Respectfully submitted,

Date: 7/18/01

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9. (Amended) A compact disc processing system comprising:

a supply station for holding a plurality of blank compact discs;

a printer for printing indicia on a first compact disc, the printer includes an extendable drawer adapted to receive the first compact disc;

a recorder for recording information on the first compact disc, the recorder includes an extendable drawer to receive the first compact disc; and

a transporter carriage for simultaneously holding the first and a second compact discs on first and second planes, the transporter carriage is moveable in both vertical and [a] horizontal directions to place and pick up the first compact disc from the drawers of both the recorder and printer, the transporter carriage is moveable in both vertical and [a] horizontal directions to pick up one of the plurality of blank compact discs held at the supply location,

the transporter carriage comprises a pickup arm and a gripping head attached to one end of the pickup arm, the gripping head has first and second gripping locations each for respectively holding the first and second compact discs simultaneously, and the gripping head is rotatable about a horizontal axis of the pickup arm.

10. (Amended) The compact disc processing system of claim 9 wherein the supply station [location] includes a vertically extending rod sized to fit within a central opening provided in the plurality of blank compact discs.

21. (Amended) A method of operating a disc processing system comprising a printer for printing indicia on a compact disc, a recorder for recording information on the compact disc, and a transporter carriage for simultaneously holding at least two compact discs on first and second planes, the method comprising:

gripping a first compact disc located in the printer with the transporter carriage;

removing the first compact disc from the printer;

moving the transporter carriage to the recorder and gripping a second compact disc located in the recorder with the transporter carriage;

removing the second compact disc from the recorder;

placing the first compact disc in the recorder; [and]

moving the transporter carriage to the printer; and

placing the second compact disc in the printer.

22. (Amended) A method of operating a disc processing system comprising a printer for printing indicia on a compact disc, a recorder for recording information on the compact disc, and a transporter carriage for simultaneously holding at least two compact discs on first and second planes, the method comprising:

gripping a first compact disc located in the recorder with the transporter carriage;

removing the first compact disc from the recorder;

moving the transporter carriage to the printer and gripping a second compact disc located in the printer with the transporter carriage;

removing the second compact disc from the printer;

placing the first compact disc in the printer; [and]

moving the transporter carriage to the recorder; and

placing the second compact disc in the recorder.